AMENDMENTS TO THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A retinal imaging system comprising:

a light source;

optics ~~which~~ configured to receive light from the light source and ~~which~~ to transmit the light ~~to produce a beam that is substantially convergent, the beam~~ so that the light converges prior to entering an eye along a first axis, ~~penetrating~~ forms a beam that passes through a lens of the eye, remains substantially collimated through the lens, and ~~diverging following penetration of~~ diverges upon exiting the lens to illuminate an area of a retina of the eye~~, the beam converging until reaching the lens~~; and

an imaging device ~~that receives~~ to receive imaging rays produced by a reflection of the ~~beam~~ light from the retina, wherein the imaging rays exit the eye along a second axis that is separate and different from the first axis.

2. (Original) The retinal imaging system of claim 1, wherein the optics comprise a beam splitting device that allows transmission of at least part of the light away from the eye.

3. (Original) The retinal imaging system of claim 2, further comprising:

a darkened region for absorbing the part of the light transmitted away from the eye.

4. (Original) The retinal imaging system of claim 1, further comprising:

a surface containing an aperture that is positioned in front of the eye for blocking at least some Purkinje reflections and corneal reflections from the eye.

5. (Original) The retinal imaging system of claim 4, wherein the surface is covered, at least in part, with a non-reflective material.

6. (Original) The retinal imaging system of claim 1, further comprising:

surfaces that form an aperture located between the light source and the optics, the aperture limiting an angle of the light to reach the optics.

7. (Original) The retinal imaging system of claim 1, further comprising a series of surfaces that form a series of apertures located between the light source and the optics, the series of apertures limiting an angle of the light to reach the optics.

8. (Original) The retinal imaging system of claim 1, further comprising rilling located along a path the light takes between the light source and the optics.

9. (Previously Presented) The retinal imaging system of claim 1, further comprising a stereo filter located on an optical path between the eye and the imaging device, the stereo filter

comprising an area for transmitting a first portion of the imaging rays from the eye and an area for blocking a second portion of the imaging rays.

10. (Previously Presented) The retinal imaging system of claim 9, wherein the first portion of the imaging rays comprise rays obtained at a first angle from a point on the retina, and the second portion of the imaging rays comprise rays obtained at a second angle from the point on the retina.

11. (Original) The retinal imaging system of claim 1, further comprising:

at least one housing that holds the light source, the optics, and the imaging device; and

a mechanism for positioning the at least one housing relative to the eye.

12. (Original) The retinal imaging system of claim 1, further comprising:

a housing that holds at least part of the optics, the housing being movable to change the area of the retina that is illuminated.

13. (Original) The retinal imaging system of claim 1, wherein the light source comprises:

light emitting diodes having different colors; and optical fiber arranged to receive light from at least one of the light emitting diodes.

14. (Currently Amended) An ophthalmoscope comprising:

optics ~~which~~ configured to direct light into a predetermined portion of an eye that is not used for imaging, the light entering the eye along a first axis, the optics for shaping the light so that the light converges prior to entering the eye, forms a beam that passes through a lens of the eye, remains substantially collimated through the lens, and ~~is substantially convergent as the light goes through a lens of the eye and so that the light~~ diverges ~~following penetration of~~ upon exiting the lens to illuminate an area of a retina of the eye~~, the light converging until reaching the lens~~; and

an imaging device ~~that captures~~ to capture images of the retina from imaging rays produced by a reflection of the light from the retina, wherein the imaging rays exit the eye along a second axis that is separate and different from the first axis.

15. (Original) The ophthalmoscope of claim 14, wherein the optics comprise a beam splitting device that transmits at least part of the light away from the eye.

16. (Original) The ophthalmoscope of claim 15, further comprising:
a darkened region for absorbing the part of the light transmitted away from the eye.

17. (Previously Presented) The ophthalmoscope of claim 14, further comprising:
a surface containing an aperture that is positioned in front of the eye for blocking at least some Purkinje reflections from the eye.

18. (Original) The ophthalmoscope of claim 17, wherein the surface is covered, at least in part, with a non-reflective material.

19. (Original) The ophthalmoscope of claim 14, further comprising:

a light source that provides the light to the optics; and

surfaces that form an aperture located between the light source and the optics, the aperture limiting an angle of the light to reach the optics.

20. (Original) The ophthalmoscope of claim 14, further comprising a series of surfaces that form a series of apertures located between the optics and a source of the light, the series of apertures limiting an angle of the light to reach the optics.

21. (Original) The ophthalmoscope of claim 14, further comprising rilling located along a path the light takes between a source of the light and the optics.

22. (Previously Presented) The ophthalmoscope of claim 14, further comprising a stereo filter located on an optical path between the eye and the imaging device, the stereo filter comprising an area for transmitting a first portion of the imaging rays from the eye and an area for blocking a second portion of the imaging rays.

23. (Previously Presented) The ophthalmoscope of claim 22, wherein the first portion of the imaging rays comprise rays obtained at a first angle from a point on the retina, and the

second portion of the imaging rays comprise rays obtained at a second angle from the point on the retina.

24. (Original) The ophthalmoscope of claim 14, further comprising:

a light source that provides the light to the optics;

at least one housing that holds the light source, the optics, and the imaging device; and

a mechanism for positioning the at least one housing relative to the eye.

25. (Original) The ophthalmoscope of claim 14, further comprising:

a housing that holds at least part of the optics, the housing being movable to change the area of the retina that is illuminated.

26. (Original) The ophthalmoscope of claim 14, further comprising a light source, the light source comprising:

light emitting diodes having different colors; and

optical fiber arranged to receive light from at least one of the light emitting diodes and to deliver the light to the optics.

27. (Currently Amended) A retinal imaging apparatus, comprising:

means for producing convergent light and for directing the convergent light to a lens of an eye to form a beam that passes through the lens, remains substantially collimated in the lens, and ~~so that the convergent light~~ diverges ~~following penetration of~~ after exiting the lens ~~and~~

~~illuminates~~ to illuminate an area of a retina of the eye, the convergent light entering the eye along a first axis ~~and converging until reaching the lens~~;

means for capturing an image of the retina from imaging rays produced by a reflection of ~~the convergent~~ light from the retina, wherein the imaging rays exit the eye along a second axis that is separate and different from the first axis;

means for selectively blocking light reflected from a cornea of the eye; and

means for capturing light reflected from the retina.

28. (Currently Amended) A retinal imaging system comprising:

an illumination path system configured to receive ~~which receives~~ light and ~~causes~~ to cause the light to penetrate a pupil of an eye at a spot on the pupil, the light entering the eye along a first axis and exiting a lens of the eye along a second axis that is separate and different from the first axis to illuminate an area of a retina of the eye, wherein the illumination path system is configured to cause the light ~~converging~~ to converge ~~until reaching~~ toward the lens, to substantially collimate in the lens, and ~~diverging~~ to diverge upon exiting ~~following penetration of~~ the lens; and

an imaging path system configured to receive ~~which receives~~ reflected light from the area of the retina and ~~which transmits~~ to transmit the reflected light to an imaging device, the imaging path system containing surfaces that define apertures to reduce Purkinje reflections and to reduce reflections from an iris of the eye, the imaging path system containing a stereo filter having one area for passing a first portion of the reflected light and another area for blocking a second portion of the reflected light.

29. (Currently Amended) The retinal imaging system of claim 28, further comprising:

a base on which the illumination path system and the imaging path system are mounted, the base providing five degrees of freedom of motion for the retinal imaging system.

30. (Original) The retinal imaging system of claim 29, wherein the base comprises a slit lamp base.

31. (Currently Amended) The retinal imaging system of claim 28, wherein the illumination path system comprises a beam splitting device that transmits at least part of the light away from the eye.

32. (Original) The retinal imaging system of claim 31, further comprising:

a darkened region for absorbing the part of the light transmitted away from the eye.

33. (Currently Amended) The retinal imaging system of claim 28, wherein the illumination path system comprises a series of surfaces that form a series of apertures located along the illumination path system, the series of apertures limiting an angle of the light to reach the eye.

34. (Currently Amended) The retinal imaging system of claim 28, further comprising rilling located along the illumination path system.

35. (Previously Presented) The retinal imaging system of claim 28, wherein the first portion of reflected light comprises light reflected at a first angle from a point on the retina, and the second portion of reflected light comprises light reflected at a second angle from the point on the retina.

36. (Currently Amended) The retinal imaging system of claim 28, further comprising:

a light source comprised of different color diodes which provide ~~the~~ light to the illumination path system.

37. (Currently Amended) The retinal imaging system of claim 28, further comprising:

a beam splitter that transmits at least part of ~~the~~ light from the illumination path system away from the eye.

38. (Currently Amended) A method comprising:

generating convergent light via an illumination path system of a retinal imaging system;

directing the convergent light through an illumination portion of an eye such that the light enters the eye along a first axis, converges ~~until reaching~~ towards a lens of the eye, remains substantially collimated through the lens, and diverges ~~following penetration of~~ after exiting the lens, the illumination portion of the eye being segregated from an imaging portion of the eye;

receiving reflected light via the imaging portion of the eye;

passing the reflected light through an imaging path system to an image capturing device;

positioning the imaging path system relative to the illumination path system such that the reflected light exits the eye along a second axis that is separate and different from the first axis; and

producing an image based on the reflected light.

39. (Original) The method of claim 38, further comprising:

selectively blocking a portion of the reflected light to produce a stereo image of the eye.

40. (Original) The method of claim 39, wherein selectively blocking comprises transmitting a first portion of the reflected light and blocking a second portion of the reflected light.

41. (Original) The method of claim 40, wherein the first portion comprises rays obtained at a first angle from a point on the retina, and the second portion comprises rays obtained at a second angle from the point on the retina.

42. (Original) The method of claim 38, further comprising:

blocking at least some Purkinje reflections from reaching the imaging path.

43. (Original) The method of claim 38, wherein the convergent light is generated via one or more of optics, rilling, apertures, and colored diodes.

44-59. (Cancelled)

60. (Currently Amended) A method of diagnosing a condition comprising:

directing light along an illumination path system which receives light, and causes the light to enter a pupil of an eye along a first axis, the illumination path system causing the light ~~converging until reaching~~ to converge towards a lens of the eye, to substantially collimate through the lens, and ~~diverging following penetration of~~ to diverge after exiting the lens;

passing reflected light produced by a reflection of the light from a retina of the eye through an imaging path system which transmits the reflected light to an imaging device;

positioning the imaging path system relative to the illumination path system such that the reflected light exits the eye along a second axis that is separate and different from the first axis; and

generating images via the imaging device that include shadows indicative of details of the eye.

61. (Previously Presented) The method of claim 60, wherein generating images comprises generating video images.

62. (Cancelled)

63. (Currently Amended) A retinal imaging system comprising:

a light source;

optics configured to receive light from the light source and to transmit the light so that the light is substantially convergent, the light entering an eye along a first axis, penetrating a lens of the eye, and diverging following penetration of the lens to illuminate an area of a retina of the eye, the light converging until reaching the lens; and

an imaging device to receive imaging rays produced by a reflection of the light from the retina, wherein the imaging rays exit the eye along a second axis that is separate and different from the first axis;

~~The retinal imaging system of claim 1,~~ wherein the optics are configured to direct the light from the light source to the eye along an illumination path system; and ~~the retinal imaging system further comprising:~~

a mechanism for rotating the illumination path system relative to the eye.

64. (Cancelled)

65. (New) The retinal imaging system of claim 63, wherein the beam substantially collimates through the lens and diverges upon exiting the lens to illuminate the area of the retina.